

experience SINGAPORE



The Singapore Green Plan 2030 is a whole-of-nation effort to mitigate the effects of climate change

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ED'S NOTE



Dear readers,

Sustainability is an existential necessity to combat climate change and Singapore is part of the global movement. As we ring in 2022, we mark the first full year of the roll-out of the Singapore Green Plan 2030. This ambitious framework encourages everyone in our island nation to rethink the way we live, work, study and play. In this issue's Focus story "Making the Switch" (pages 3 to 5), we share the five key areas of the Green Plan 2030 and how these will change the lives of people living in Singapore.

Realising sustainability goals in Singapore is a whole-of-nation effort, with the public sector leading the way. Our articles "Changing Gears" and "Leaving a Lighter Footprint" (pages 8 and 9, respectively) showcase two public officers who are overseeing the roll-out of different parts of the Green Plan. Representing the built environment and land transport sectors, these officers candidly share lessons on communication and engagement. We hope you will find the information useful as you support your own country's sustainability agenda.

Such lessons can also be accessed through the Singapore Cooperation Programme's range of eco-centred courses. A snapshot of these courses is featured in this issue's Reflections story, aptly titled "Eco Exchanges". Upcoming courses delve into sustainable waste management and climate change adaption and mitigation strategies. Find more information on pages 6 and 7.

As a responsible global citizen, Singapore endeavours to play an active and constructive role in the worldwide movement towards sustainability. Singapore hosted the 14th Singapore International Energy Week (SIEW) in October 2021, convening important conversations about Asia's energy transition. Highlights of the discussions at SIEW 2021 can be found in our Joining Hands story "Powering Up Together" (pages 10 and 11). Such conversations are critical in bringing people and nations collectively closer to a more sustainable world for our future generations.

Sheryl Shum

**Acting Director
Strategic Communications Directorate
Ministry of Foreign Affairs, Singapore**

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experience SINGAPORE

A NEWSLETTER OF THE
SINGAPORE COOPERATION
PROGRAMME



MINISTRY OF FOREIGN AFFAIRS
SINGAPORE

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WITH LIVING SPACES
CLOSELY INTEGRATED WITH
GREENERY, EVERY HOUSEHOLD
WILL BE JUST A 10-MINUTE
WALK AWAY FROM A PARK.

focus

MAKING THE SWITCH

A whole-of-nation and multi-sectoral effort, the Singapore Green Plan 2030 features ambitious and concrete targets towards sustainable development and net zero emissions across the island.

February 2022 marks one year since Singapore unveiled its Singapore Green Plan 2030 (Green Plan), a nationwide movement to advance sustainability on the island. This umbrella initiative brings together the country's sustainability policies and aims to transform the way people live, work, study and play. Explaining the impetus for the Green Plan, Prime Minister Mr Lee Hsien Loong said, "We need to ensure a Singapore for our future generations. All of us have to work together and make Singapore a bright green spark for the world."

This, however, cannot be achieved in silos, which is why the Green Plan is a whole-of-nation sustainability movement, with the public sector taking the lead. It is spearheaded by the country's Ministry of Education, Ministry of National Development, Ministry of Sustainability and the Environment, Ministry of Trade and Industry, and Ministry of Transport. The multi-sectoral approach ensures that sustainability action is galvanised across all sectors with every individual playing their part, and does not become restricted to certain populations, economic sectors or locales.

The targets and programmes of the Green Plan are organised around the five pillars of City in Nature, Sustainable Living, Energy Reset, Green Economy and Resilient Future, with Green Government and Green Citizenry as enablers. Concrete and ambitious targets ensure that Singapore's sustainability aspirations translate into bold, balanced and collective action.

1. CITY IN NATURE

GOAL: To create a green, liveable and sustainable home for Singaporeans.

Greening is not new to Singapore. The Garden City and City in a Garden vision has been the foundation for Singapore's greening strategies and transformation over the years. The goal is to transform Singapore into a City in Nature and to provide Singaporeans with a better quality of life, while co-existing with the flora and fauna on this island. With climate change, more extreme weather conditions and increased urbanisation, there is more that can be done on this front.

One key thrust under the City in Nature vision is extending Singapore's natural capital by expanding its Nature Park Network. Today, Singapore has nature parks spanning more than 350 hectares, with 200 more hectares of land marked to be rezoned into nature parks by 2030. Singapore is doing so through efforts to naturalise its landscapes and waterways, and conserve its native flora and fauna through species recovery and habitat enhancement programmes.

The island nation is also restoring nature into its urban environment. This includes planting more than 170,000 trees in industrial estates, which are some of the hottest parts of the island. Singapore is strengthening connectivity between its green spaces as well. The aim is to have 300 km of Nature Ways (roads with multi-tiered planting to create a forest-like structure), 500 km of park connectors, and for every household to be within a 10-minute walk from a park, by 2030. Finally, to foster community stewardship,

there will continue to be various programmes to involve the community in the process of transforming Singapore into a City in Nature.

Such efforts will enhance Singapore's reputation as a highly liveable city, with residents being able to enjoy cleaner air and water, a cooler urban environment, and health and wellness benefits from being closer to nature.

2. SUSTAINABLE LIVING

GOAL: To make reducing carbon emissions, keeping the environment clean, and saving resources and energy a way of life in Singapore.

The country is also pursuing the vision of a Zero Waste Nation powered by a circular economy, with "Reduce, Reuse and Recycle" as a norm for citizens and businesses. Singapore has closed its water loop with NEWater, demonstrating that with a little ingenuity, precious resources can be used many times over. This mantra has extended to other resources as well: plans are afoot to turn incineration bottom ash into NEWSand (a sand-like material) for use



A BENCH MADE OUT OF MUNICIPAL SOLID WASTE SLAG.

in non-structural construction such as roads, pathways and benches. This will help to close the waste loop and contribute to Singapore's target to reduce the waste sent to its landfill by 30% by 2030, with efforts frontloaded over the next 5 years to achieve a 20% reduction by 2026.

Singaporeans, too, will be encouraged to do their part by making sustainability a way of life: strategically-placed advertisements remind motorists how they can reduce their carbon footprint by switching to public transport. Indeed, nearly a million vehicles ply Singapore's roads today, releasing more than a tenth of its total carbon emissions. The Government hopes to bring these figures down by encouraging public transport ridership. The peak-hour mass public transport mode-share currently stands at 64% and the goal is to raise that to 75% by the early 2030s. This will be done by significantly expanding the public transport network to make it more convenient and accessible to all.

Beyond these, educational efforts are also underway to inculcate sustainability as a value in future generations. The Ministry of Education's Eco Stewardship Programme does just this, targeting and imparting to students of all ages knowledge about sustainability issues through curriculum materials. These are then put to action by inculcating daily habits, such as reducing food waste and reducing energy usage, through activities in school. It is hoped that this will create a ripple effect and impact the wider community.

3. ENERGY RESET

GOAL: To transition to low-carbon energy sources, increase energy efficiency and lower the carbon footprint.

Decarbonising power generation is at the core of Singapore's climate efforts, as the power sector accounts for around 40% of



PHOTO COURTESY OF JTC

our carbon emissions and is growing with increasing electrification. Singapore is harnessing four "switches" to meet its climate goals:

NATURAL GAS: Natural gas is an important energy source in the global energy transition. Likewise, it is an important part of Singapore's energy mix given its limited access to renewable energy, until alternative low-carbon generation technologies are commercially feasible. Singapore will continue to work with power generation companies to improve the efficiency of power plants.

SOLAR: Solar energy is the most viable renewable energy source in Singapore, and the Government will continue to work with all stakeholders to maximise solar energy adoption in Singapore. The aim is to accelerate the deployment of 1.5 gigawatt peak (GWp) of solar power by 2025 and at least 2 GWp by 2030, which can serve the energy needs of 350,000 households a year.

REGIONAL POWER GRIDS: Regional power grids support decarbonisation by enabling the development of renewable resources in countries that

are rich in these resources. This helps source countries meet or exceed their climate targets, and some of the electricity can also be exported to other countries, enabling greater resilience and stability for the region's power systems. Singapore seeks to work with partners from neighbouring countries to develop the regional power grid and to import up to 4 GWp of low-carbon electricity by 2035.

LOW-CARBON ALTERNATIVES: Emerging alternatives such as low-carbon hydrogen and carbon capture, utilisation and storage (CCUS) technologies will be critical solutions for decarbonising the power sector in the longer term. In October 2021, the Singapore Government awarded S\$55 million for R&D projects in low-carbon energy technologies under the Low Carbon Energy Research Funding Initiatives. The Government is also working with its international partners to develop these solutions.

Besides transforming the way Singapore produces energy, managing its energy demand is also key to achieving a more sustainable future for the nation. The mindset of energy reset will also extend to the built environment and the way people commute. For example, the Government is promoting the use of cleaner-energy vehicles (*read more on page 6*).

Together, these efforts will reduce Singapore's energy consumption by more than 8 million megawatt hours per year. That, in turn, will cut domestic greenhouse gas emissions by at least 3 million tonnes per year by 2030.

4. GREEN ECONOMY

GOAL: To seek green growth opportunities to create new jobs, transform industries and harness sustainability as a competitive advantage.

A new Enterprise Sustainability Programme will support businesses on sustainability initiatives and capture opportunities in the green economy. Alongside



PHOTO COURTESY OF JTC

JURONG ISLAND WILL BE TRANSFORMED INTO A SUSTAINABLE ENERGY AND CHEMICALS PARK AS PART OF THE PLAN TO NAVIGATE TOWARDS A LOW-CARBON FUTURE.

● SINGAPORE AIMS TO DEPLOY AT LEAST 2 GWP OF SOLAR ENERGY BY 2030.

this, the Government has unveiled the Enterprise Financing Scheme — Green, which enables better access to green financing for enterprises developing enabling technologies and solutions that reduce waste, resource use or greenhouse gas emissions. These efforts, alongside research and development grants, will support enterprises in developing capabilities in sustainability, and strengthen Singapore as a vibrant location to develop new sustainability solutions for the world.

Additionally, Singapore implemented the first carbon pricing scheme in Southeast Asia in 2019, to incentivise all sectors to cut their carbon emissions and support Singapore's transition to a low-carbon economy. The carbon tax covers facilities emitting more than 25,000 tonnes of CO₂ equivalent each year and covers about 80% of the country's emissions. Outcomes of the ongoing review of the carbon tax will be unveiled at this year's Budget, set to be delivered in February.

5. RESILIENT FUTURE

GOAL: To build up Singapore's climate resilience and enhance the nation's food security.

To mitigate the effects of climate change, one must first understand the impact of rising temperatures. The Centre for Climate Research Singapore (CCRS) is one of the world's few dedicated tropical climate research centres, and a key node for climate and weather research in the country. CCRS runs high-resolution regional climate models to produce long-term projections of rainfall, temperature, wind, and sea level rise in Singapore. With this, the government can plan to protect its population from a warming world. In the pipeline are plans for Singapore to shore up its defences against rising sea levels, and to use cool materials and urban greenery to moderate the rise in urban heat.

Food security will also be threatened by global warming, underscoring the need to build a more resilient food supply. Singapore's "30 by 30" goal to build capabilities and capacity to meet

30% of our nutritional needs through locally-produced food by 2030 is well underway. The government has availed space and infrastructure for agriculture and aquaculture, and is working with stakeholders to grow the agri-food ecosystem. It launched a S\$60 million Agri-Food Cluster Transformation Fund, which supports local farms in their adoption of technology in the agri-food sector to achieve better productivity, innovation and sustainability. The S\$144 million Singapore Food Story R&D Programme drives research innovation in sustainable agri-food solutions and plugs existing technological gaps.

GREEN GOVERNMENT

Achieving the goals of the Green Plan will require a multi-stakeholder, whole-of-nation effort, with the people, and private and public sectors all playing their part to build a sustainable and low-carbon future.

The Government is leading the way in Singapore's sustainability journey, by setting more ambitious targets and measures for its offices and public infrastructure. The aim is to peak the Government's emissions around 2025, ahead of the current national target. In addition, the public sector will embed environmental sustainability into core business areas such as procurement. This will catalyse the development of the sustainability sector and activate demand for low-carbon and resource-efficient solutions.

GREEN CITIZENRY

An important aspect of the Green Plan is about building a national consciousness to care for the environment, with citizens closely involved in co-creating and co-delivering solutions. The Government is creating spaces for Singaporeans to share their experiences and contribute their expertise, and is working with stakeholders to rally everyone to take action for sustainability.

31 OCT-12 NOV 2021
GLASGOW
COP26



A COMMITMENT TO TOMORROW

The Glasgow Climate Pact was adopted at the recent 2021 United Nations Climate Change Conference (COP26). At COP26, Singapore joined the following global initiatives in support of global climate action:

- The **Powering Past Coal Alliance**, which aims to phase out unabated coal in electricity mix by 2050 (for non-OECD countries) and restrict international finance for unabated coal.
- The **Global Methane Pledge**, which targets to collectively lower global methane emissions by at least 30% from 2020 levels by 2030.
- The **Greening Government Initiative**, which provides a platform to share information and best practices, develop collaborative partnerships, and showcase innovation and success on greening government operations.
- The **Agriculture Innovation Mission for Climate**, which demonstrates a collective commitment to accelerate investment in, and support agricultural innovation for climate-smart agriculture and food systems.
- The **Glasgow Leaders' Declaration on Forests and Land Use** to collectively halt and reverse forest loss and land degradation by 2030, while delivering sustainable development and promoting an inclusive rural transformation.

For more information, visit www.GreenPlan.gov.sg

● VERTICAL URBAN FARMING TECHNOLOGY CONTRIBUTES TO THE "30 BY 30" GOAL FOR FOOD THAT IS LOCALLY AND SUSTAINABLY PRODUCED.

PHOTO: SHUTTERSTOCK



ECO EXCHANGES



JSP21

GREEN ECONOMY
20 TO 24 SEPTEMBER 2021



Japan Singapore Partnership Programme for the 21st Century (JSP21): Green Economy 20 – 24 SEPTEMBER 2021

Organised in partnership with the Japan International Cooperation Agency (JICA), this was the inaugural programme on the Green Economy conducted under the auspices of the JSP21. Experts from Singapore and Japan shared the experiences and efforts of both countries in balancing economic growth with a green and sustainable tomorrow. Topics covered include moving towards a low-carbon future, green investment and sustainable financing.



Singapore Cooperation Programme Training Award: Environmental Conservation and Sustainability

2 – 6 AUGUST 2021

Conducted by the Singapore Environment Institute, this course explored government initiatives and efforts by non-profit organisations towards zero-waste and food security in Singapore. Participants discussed the types of conservation efforts and environmental threats in their home countries, as well as the lessons learnt and the way forward.



Singapore Cooperation Programme Training Award: Clean Energy and Emission Reduction

31 MAY – 4 JUNE 2021

Conducted by the Singapore Environment Institute, this course shared about Singapore's multi-agency engagement in formulating energy solutions to climate change. This includes waste-to-energy solutions and vehicular emissions control in Singapore. Participants also heard from industry experts on the latest technologies in alternative energy sources such as biomass, wind and solar power.

DID YOU KNOW?

With an average annual solar irradiance of 1,580 kWh/m²/year and about 50% more solar radiation than temperate countries, solar energy is the most promising renewable energy source for Singapore when it comes to electricity generation. Singapore aims to deploy at least 2 GWp of solar energy by 2030, which is equivalent to powering about 350,000 households for a year.

Amid the COVID-19 pandemic, sustainability remains a high priority of many countries and the Singapore Cooperation Programme has continued to offer eco-centred courses.

Singapore-United States Third Country Training Programme
Workshop on Addressing Plastic Pollution through Integrated Waste Management Strategies
 10 to 24 September 2021

Singapore-United States Third Country Training Programme: Workshop on Addressing Plastic Pollution through Integrated Waste Management Strategies

10 – 24 SEPTEMBER 2021

Conducted under the auspices of the Singapore-United States Third Country Training Programme, this course provided participants with an opportunity to learn about ASEAN’s plastic pollution challenges. Experts from the Singapore Environment Institute and the US Environmental Protection Agency shared about circular economy approaches and their linkages to the ASEAN Regional Action Plan on Marine Debris as well as the Blue Economy.

DID YOU KNOW?

Plastic is estimated to account for 80% of all marine debris in the oceans. The sudden increase in single-use plastics during the COVID-19 pandemic has put additional stress on countries working to tackle marine plastic debris. The ASEAN Regional Action Plan for Combatting Marine Debris (2021 – 2025) was launched in May 2021. It proposes an integrated approach to address marine plastic pollution in the region and represents a milestone for ASEAN.

MS ANGELA AFFRAN
 Minister's Secretariat
 Ministry of Education
GHANA

My key takeaway from the course is that WASH is key to every country's socio-economic transformation and therefore it is important for the government, agencies, and all other stakeholders to prioritize WASH. I intend to work collaboratively with key stakeholders to promote WASH in the education sector in my country.

Singapore-UNICEF Joint Training Programme: Leaving No One Behind: Sustainable WASH Services in a Rapidly Changing Context

2 – 13 AUGUST 2021

Organised in partnership with the United Nations Children’s Fund (UNICEF) and the Singapore Water Academy, this course shared best practices in water management, urban sanitation and drinking water quality monitoring. Participants also discussed tools and approaches in the Water, Sanitation and Hygiene (WASH) sector such as innovative financing and knowledge management.

LOOK OUT FOR THESE

A round-up of other opportunities for knowledge exchange and sharing in the upcoming months.

- Pandemic Management
14 – 18 February 2022
- Sustainable Waste Management and Smart Urbanisation in the Face of Climate Change
21 – 25 February 2022
- Smart Nation: Strategies, Opportunities and Cybersecurity Management
7 – 11 March 2022
- Climate Change Adaptation and Mitigation Strategies
14 – 18 March 2022

Visit our website (www.scp.gov.sg) for more information and course application.

in singapore

CHANGING GEARS

By 2040, Singapore's roads will be free of vehicles running on fossil fuels. Mr Mark Tan of the Ministry of Transport's Futures & Transformation Division, and the Land Transport Authority's National Electric Vehicle Centre, is driving this transformation.



“

Cleaner, greener roads — this is what residents and visitors to Singapore can look forward to by 2040, when the last petrol- and diesel-driven vehicles are taken off the roads. It is an ambitious task, given that nearly a million cars ply the island's streets and highways today. But it is one that the country is committed to seeing through, explains Mr Mark Tan, Director of the Futures & Transformation Division and Head of the National Electric Vehicle Centre. “With land transport accounting for about 15% of Singapore's national carbon emissions today, setting a clear vision and promoting the use of vehicles that run on cleaner energy is an important way for us to cut these emissions, ensure sustainability and improve our environment,” he tells *Experience Singapore*. He adds that sustainability has been a perennial focal point of Singapore's urban planning, which takes a long-term perspective. After all, Singapore was a pioneer in limiting the growth of the vehicle population to minimise externalities.

Mr Tan adds that the switch to electric cars is not a departure from its vision of a car-lite Singapore. “Simply put, public transport is still the greenest mass transport option. If you can take a bus or train, do it. But if you really need a car, choose a cleaner-energy one.”

THE ROAD TO 2040

Some may ask, why wait till 2040 to phase out internal combustion engine (ICE) vehicles, which run on fossil fuels? To this, Mr Tan says that it is important to allow both auto-makers and consumers to adjust to electric vehicles (EVs). There are several aspects to this: for example, critical infrastructural features like charging points need to be rolled out at scale across the

island. Auto-makers will also need time to bring to market a full range of vehicle models that reflects today's ICE diversity. Then there are financial matters to consider, such as tax schemes to encourage the early adoption of cleaner energy vehicles. Additionally, the Government has to work closely with the automobile industry to ensure that a rising demand for EVs can be met. “2040 is thus an ambitious but reasonable timeline,” he concludes.

And while 2040 is a target for all vehicles, some types will be electrified much earlier. Already, all new bus purchases are to be either electric or hybrid. “This helps to significantly reduce the carbon emissions of our public bus fleet,” explains Mr Tan. “Public buses require dedicated charging infrastructure and changes to bus operations. To ensure a smooth transition, we have deployed a few public buses first, to be able to gain operational and technical insights in deploying and maintaining these buses.”

To get buy-in for the switch to green, the Ministry of Transport has started raising public awareness about cleaner energy vehicles. “Our outreach and engagement efforts cut across a diverse set of stakeholders — such as individual car owners, fleet operators, other road users and building owners — as well as platforms,” shares Mr Tan. “At the same time, we are leveraging social media to amplify our communications efforts. From Q&A videos with the Minister for Transport and infographics to bite-sized trivia, we are constantly pumping out new content with tailored messages for different audiences. And we will explore more opportunities to engage, partner and mobilise stakeholder groups.”

With our strong emphasis on greenery, drivers will be able to drive in a City in Nature, while cyclists, pedestrians and other shared road users will enjoy cleaner and cooler journeys.

Mr Mark Tan

LOWERING COSTS FOR MOTORISTS

Encouraging early adoption:

The Singapore Government's EV Early Adoption Incentive and enhanced Vehicular Emissions Scheme came into effect on 1 January 2021, lowering the upfront cost of owning an electric car by up to \$45,000.

Re-balancing taxation:

In 2022, Singapore will revise its road tax structure so that the road tax payable by mass-market electric cars are in line with those by their ICE equivalents.



LEAVING A LIGHTER FOOTPRINT

Ms Chia Yen Ling, Director of the Building and Construction Authority's Green Building Policy Department on championing and co-creating a sustainable built environment in Singapore.

Singapore's buildings account for over 20% of the country's greenhouse emissions. This makes greening these structures, as well as the larger built environment sector, a priority for the country's Building and Construction Authority (BCA).

The blueprint for this greening movement can be found in the latest edition of the **Singapore Green Building Masterplan (SGBMP)**. First launched 16 years ago, this masterplan is regularly updated to consider new technologies and environmental needs, says Ms Chia Yen Ling, Director of BCA's Green Building Policy Department. "It has also gotten more ambitious over time to address the climate crisis and reflect the society's growing eco-consciousness," she adds. For instance, the latest edition of the masterplan calls for 80% of new developments (by Gross Floor Area) to be "Super Low Energy"¹ buildings from 2030. This can be achieved by using a mix of onsite and offsite renewable energy, or other smart energy management strategies. Besides energy, the SGBMP (under the Green Mark 2021 certification scheme) also looks into health and wellbeing, and building resilience, among other areas. Says Ms Chia, "With these actionable plans, the SGBMP aims to deliver three key targets under the 'Energy Reset' pillar of the Singapore Green Plan 2030." These relate to Singapore's targets for sustainable buildings, low-energy usage and energy efficiency. The SGBMP targets, as well as measures to achieve them, were co-created with the



Singapore Green Building Council (SGBC) and more than 80 industry stakeholders, with input from more than 5,000 members of the public.

Ms Chia believes that co-creating actionable plans this way creates a sense of ownership and responsibility in all, which could lead to improved outcomes. "Issues like climate change aren't just for one body, like the public or private sector, to tackle alone. Climate change is everyone's business since it affects all of us. Everybody has a part to play and contribute towards reducing the environmental footprint of buildings over their lifespan," she explains. "A few years ago, we found that half of a building's energy consumption can be traced back to its tenants and users². We can't leave them out of the brainstorm on how they can cut their own consumption!"

VALUABLE ENGAGEMENT

This consultative approach is not new to BCA, which emphasises regular and meaningful engagements with all stakeholders in the built environment sector. This ranges from professionals like architects and engineers to members of the public. Ms Chia shares that such engagement sessions not only co-create new ideas and solutions, but also serve as a source of feedback which can then be followed up on as necessary.

Ms Chia knows the value of engaging stakeholders very well: over her 15 years at BCA, she has seen how regular engagements with all stakeholders can lead to favourable outcomes. Ms Chia recalls that in the mid-2000s, there was some concern among property developers about BCA's Green Mark (GM) scheme.

IN A NUTSHELL

The Singapore Green Building Masterplan aims to deliver three key targets in 2030:

- Step up the pace to green 80% of buildings by 2030
- Ensure 80% of new developments to be Super Low Energy buildings from 2030
- Achieve 80% improvement in energy efficiency for best-in-class green buildings (which refers to buildings that are among the most energy-efficient in Singapore) by 2030



"The scheme is a rating system that evaluates a building's environmental impact and performance in a tropical setting," explains Ms Chia. "But when it was launched, there was some hesitation about the perceived cost and complexity of 'going green'."

BCA tackled this through regular engagement with developers and consultants, during which they highlighted both the tangible and intangible benefits of developing greener buildings. Green building projects from progressive developers, which hopped onto the pilot GM scheme, were also used as case studies for the built environment sector. Today, green building conversations have shifted to discussions on their value with an independent review of BCA's GM scheme carried out in 2019. The review has shown that GM buildings are able to reap positive net present value throughout their life cycle with the cost savings outweighing the upfront investment cost³.

In addition to certifying that development projects meet the GM standards, BCA — through its educational arm, BCA Academy — has also helped the industry in developing a talent pipeline. Notes Ms Chia, "This ensures that we have green building specialists who are competent in designing, building, operating and maintaining GM-certified buildings."

1 Super Low Energy buildings are best-in-class performing Green Mark buildings that achieve at least 60% energy savings (above 2005 building code). More information on SLE buildings is at www1.bca.gov.sg/buildsg/sustainability/super-low-energy-programme.

2 BCA Building Energy Benchmarking Report 2017, based on office and retail buildings' electricity consumption relationship.

3 Independent Consultancy Study on BCA Green Mark Schemes may be found at www1.bca.gov.sg/buildsg/sustainability/green-mark-for-independent-consultancy-study-on-bca-green-mark-schemes.

joining hands

POWERING UP TOGETHER

Strategies to advance and navigate Asia's energy transition took centrestage at the 14th edition of the Singapore International Energy Week.



According to *Energy Tracker*, Asia will account for an estimated 43% of the global energy demand by 2040. Given such forecasts, it was apt that the 14th Singapore International Energy Week (SIEW) was held in the world's largest continent's energy transition, through its keynote addresses, dialogues and roundtable discussions. Together, these attracted over 4,000 delegates on-site in Singapore and 20,000 global online viewers, representing more than 80 countries in all. The hybrid event ran from 25 to 29 October 2021.

Among the guests at SIEW 2021 were 30 ministers from various countries, who spoke about the challenges, opportunities and strategies needed to advance Asia's energy transition. Delegates agreed on the need to transition to a low-carbon future. There was also mutual agreement that the decarbonisation process is a complex and evolving one. It needs to be carefully managed to ensure energy security and reliability for countries, especially those with developing economies. These agreements were timely, as SIEW 2021 was held against the backdrop of a global energy crisis and ahead of the 2021 United Nations Climate Change Conference (COP26) in the United Kingdom.

SHARING RESOURCES AND BEST PRACTICES

SIEW 2021 provided a platform for energy leaders to discuss strategic perspectives and to share best practices among delegates. The opening Singapore Energy Lecture, delivered by Singapore's Minister for Trade and Industry Mr Gan Kim Yong, shed light on the country's plans to transition towards a more sustainable future, fuelled by policies that will significantly reduce emissions, while safeguarding the security, reliability and sustainability of its

energy supply. Singapore is harnessing the four Switches — natural gas, solar, regional power grids and low-carbon alternatives — to transform its energy supply, while promoting energy efficiency to reduce demand.

Under the regional power grid switch, the country intends to import low-carbon electricity from different parts of the world. "I'm pleased to announce that Singapore plans to import up to 4 gigawatts of low-carbon electricity by 2035," said Mr Gan. "This will constitute about one-third of Singapore's electricity supply. We will start with trials to iron out the technical and regulatory issues associated with cross-border power trading." These include the pilot to import 100MW of solar-generated electricity from Pulau Bulan, Indonesia.

These energy-sharing initiatives strengthen energy security in the region. "We believe that the energy transition is a collective regional and global

effort," explained Dr Tan See Leng, Minister for Manpower and Second Minister for Trade and Industry. He also added that "It is only when we work with other countries that we will be able to achieve our collective climate goals." For example, Singapore, Lao PDR, Thailand and Malaysia have jointly committed to commence the Lao PDR-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP) in 2022. This is an important milestone in the long-term vision of creating an ASEAN Power Grid that will help to promote greater infrastructural connectivity and contribute to ASEAN's sustainable energy goals.

A key focus of Singapore's international engagement strategy is to learn from and contribute to the international discourse on best practices and capacity-building. Singapore has been playing an active role in international



ADVANCING THE LOW-CARBON ENERGY TRANSITION WAS A KEY FOCUS OF THE SINGAPORE INTERNATIONAL ENERGY WEEK 2021.



SESSIONS AT THE SINGAPORE INTERNATIONAL WEEK 2021 INCLUDED KEYNOTE ADDRESSES (LEFT, FEATURING SINGAPORE'S MINISTER FOR TRADE AND INDUSTRY, MR GAN KIM YONG) AND PANEL DISCUSSIONS.

forums such as the IEA, G20, COP26 and ASEAN summits, to name a few. Close cooperation with bilateral partners is also being facilitated to accelerate the progress towards a low-carbon energy transition. Most recently, in December 2021, Singapore and the Kingdom of Saudi Arabia signed a Memorandum of Understanding to cooperate on a wide range of energy issues including renewable energy, low-carbon technologies, and energy efficiency and conservation. Singapore had also signed three Memoranda of Understanding with Australia, Chile and New Zealand to develop emerging low-carbon technological solutions such as hydrogen and carbon capture, utilisation and storage (CCUS). These partnerships are crucial to innovate and pioneer new solutions in enhancing progress towards building a more sustainable economy.

A FOCUS ON FINANCE

This spirit of collaboration needs to extend to green financing as well, urged speakers at the Singapore-IRENA (International Renewable Energy Agency) High-Level Forum. Themed "Investing in an Inclusive and Just Clean Energy

Transition", the session featured a speech by H.E. Dato Lim Jock Hoi, the Secretary-General of the Association of South East Asian Nations (ASEAN). He noted the need to improve the investment environment for energy transition in ASEAN as the cost of financing green projects in the developing world is seven times more expensive. He also highlighted the importance of expanding beyond existing sources of finance, as Asia will need about US\$367 billion to achieve its 2035 renewable energy share — a fraction of the region's requirement in the next five years.

The sessions that followed provided delegates with insights and ideas on how they could scale up their green investments, particularly from the private sector. For example, H.E. Dr João Saldanha de Azevedo Galamba, Portugal's Deputy Minister and Secretary of State for Energy, shared how the European nation had used feed-in tariffs and launched incentives to attract green investments from the private sector. Similarly, Mr Seth Tan, Executive Director of Infrastructure Asia, highlighted the role of multilateral development banks in bridging



POWERING SINGAPORE

SIEW is the flagship event of Singapore's Energy Market Authority (EMA) which marked its 20th year as Singapore's regulatory steward for the energy sector. EMA celebrated this milestone through the launch of a 20th anniversary book that chronicles Singapore's Energy Story.



SPEAKERS AND ATTENDEES OF THE SINGAPORE INTERNATIONAL ENERGY WEEK 2021 REPRESENTED MORE THAN 80 COUNTRIES.

the gap between the public and private sectors for climate projects and noted the huge interest in green financing and the energy transition.

Practical insights like these are what entice many SIEW delegates to return to the annual forum year after year. The next edition of the Singapore International Energy Week will be held from 25 to 28 October 2022.

Save the date and opt in to receive updates at www.siew.gov.sg

ON THE SIDELINES

Other topics discussed at the week-long SIEW 2021 included:



Challenges in energy regulation: Regulators from 12 Asia-Pacific countries came together at the Asia Pacific Energy Regulatory Forum to discuss the challenges of operating against the backdrop of higher volatility in electricity markets and a global energy crunch.



Innovative energy start-ups: SIEW Energy Insights highlighted six innovative Singapore energy start-ups and their solutions for a lower-carbon future. Among them were SunGreenH2, which plans to deploy nanotechnology to significantly improve hydrogen production.



Certifying clean energy: At the inaugural Asia Clean Energy Summit, Singapore announced the launch of a new national standard to enhance the credibility and accountability of Renewable Energy Certificates.



Investing in the R&D of low-carbon alternatives: The Singapore Government awarded \$55 million to support research on low-carbon technologies projects (e.g. hydrogen and carbon capture, utilisation and storage (CCUS)), to enable local deployment in future.

Watch highlights from the Singapore International Energy Week 2021 here:



A NEWSLETTER OF THE
SINGAPORE COOPERATION PROGRAMME

**AHEAD OF
THE CURVE**

The World Economic Forum ranked Singapore ahead of all Asian countries in its Energy Transition Index (ETI) 2021, a ranking of 115 countries that reflects the progress towards a more inclusive, sustainable, affordable and secure energy system.

SOURCE: THE STRAITS TIMES



joining hands

The success of the global green transition depends on international cooperation and engagement. Singapore promotes such efforts through events like the Singapore International Energy Week (above).